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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,508	04/19/2004	Frederick Lin	CFP-2158 (20040143.ORI)	8571
23595	7590	10/25/2006	EXAMINER	
NIKOLAI & MERSEREAU, P.A. 900 SECOND AVENUE SOUTH SUITE 820 MINNEAPOLIS, MN 55402			MRUK, GEOFFREY S	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/827,508

Applicant(s)

LIN, FREDERICK

Examiner

Geoffrey Mruk

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 2-4 and 9-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 2-4 and 9-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11 October 2006.

Applicant's election with traverse of Species 2 in the reply filed on 11 October 2006 is acknowledged. The traversal is on the ground(s) that "In this regard, the Examiner has not indicated that the fields of search are different, that any extra effort would be required for searching or examination, or the like." This is not found persuasive because although there is no requirement to show separate classification in regards to an election of species, a burden does exist because a separate search would be required.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities:

Claim 1 states "an LED printer head (H) for printing the processed data without further processing them." The examiner does not know what "them" refers to. For examination purposes, the examiner will construe "them" to mean the data source.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Murakami et al. (US 5,125,045).

With respect to claim 1, Murakami discloses an LED printing system (Fig. 1: line 6) including: a data source (Fig. 1, element 10; Column 9, lines 6-9) for providing original data; a printer controller (Fig. 1, element 100; Column 9, lines 30-32) for processing the original data; and an LED printer head (Fig. 1, element 50; Column 9, line 15) for printing the processed data without further processing them (Column 9, lines 38-40).

With respect to claim 5, Murakami discloses the LED printing system of claim 1 wherein the printer controller (Fig. 1, element 100) includes:

- a first adder (Fig. 21, element 430) connected with the data source (Fig. 21, element 399);
- a threshold block (Fig. 21, element 448; Column 27, line 25) connected with the first adder;
- a second adder (Fig. 21, element 490) connected with the first adder;
- a multiplexer (Fig. 21, element 35) connected with the second adder;
- a calibration data memory (Fig. 21, element 447) connected with the multiplexer;

- an error memory (Fig. 21, element 455) connected with the second adder; and
- a calculation block (Fig. 21, element 450) connected with the error memory on one hand and connected with the first adder on the other hand;
- wherein an original datum of a current dot is sent from the data source to the first adder, and errors of related previous dots are sent from the error memory to the calculation block in which a weighted error sum is calculated based on the errors, and the weighted error sum is sent to the first adder in which the original datum and the weighted error sum are added up so as to render a sum, and the sum is sent to the threshold block in which the sum is compared with a threshold, and an output is set to be a first value if the sum is greater than threshold and a second value if otherwise, and the output is sent to the LED printer head in order to control the on/off of a current LED corresponding to the current dot, and the sum is sent to the second adder in which an error of the current dot is calculated, and the error of the current dot is set to be the sum minus the output minus a function of the error of the current LED if the sum is greater than the threshold and the sum minus the output if otherwise, and the error of the current dot is sent to the error memory (Column 27, line 8 – Column 28, line 36).

With respect to claim 6, Murakami discloses the related previous dots are the upper left, upper, upper right and left dots (Column 28, lines 37-46).

With respect to claim 7, Murakami discloses the weighted error sum (Column 28, lines 8-31) is provided via multiplying the error of each previous dot with a specific coefficient so as to render a weighted error and adding up the weighted errors.

With respect to claim 8, Murakami discloses the first value of the output is 1, and the second value of the output is 0 (Column 27, lines 17-18; Column 28, lines 33-36).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is 571 272-2810. The examiner can normally be reached on 7am - 330pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GSM  
10/17/2006



**STEPHEN MEIER**  
**SUPERVISORY PATENT EXAMINER**